Annual Report of Operations for Year 2021

To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

NPDES # for your Facility:
13-0012

Facility & Owner Information

Facility Name:
Bernie Kai Kai Gobin Salmon Hatchery

Operator Name (Permittee):
Tulalip Tribes of Washington

Address:
6406 Marine Drive
Tulalip, WA 98271

Email: mcrewson@tulaliptribes-nsn.gov
Phone: 360-222-2690; (425) 754 0955

Owner Name (if different from operator):
Same

Email: Same
Phone: Same

Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ■ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ■ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.
None.

Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): 41,987lbs weight gain, 68,229 lbs total biomass

Pounds of food fed to fish during the maximum month:
6,732 lbs (June)

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/ Spawned
BY19 Coho	22,510	There are no releases from this facility, this is the weight transferred to 03-0013 for release	N/A
BY20 Chinook	18,894	There are no releases from this facility, this is the weight transferred to 03-0013 for release	N/A
BY20 Coho	24,479	No release. These fish remained on station for a 2022 release. * wt is Dec 31 weight	N/A
BY20 Chum	2,347	There are no releases from this facility, this is the weight transferred to 03-0013 for releas	N/A

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	25,461	2,484	July	11,958	3,212
February	29,612	4,664	August	14,922	3,552
March	32,976	6,688	September	18,378	3,960
April	15,639	6,732	October	23,636	2,640
May	24,026	5,378	November	24,479	3,080
June	27,224	3,200	December	0	0

Additional Comments: * NOTE: NO FISH ARE RELEASED FROM THIS FACILITY (13-0012). ALL SALMON ARE PERIODICALLY TRANSFERRED TO THE OTHER TWO FACILITIES (13-0013 AND 13-0014) FOR RELEASE.

Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed
162 Lb dead eggs	Sept. - Dec. 2020	Offsite burial pit
57 Lb dead fish	Jan. - Dec. 2020	Offsite burial pit

Additional Comments:

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish

Additional Comments:

N/A. No incidents of mass mortality

Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

None

Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
Periodic/Monthly	None needed	

Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year**.
Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
☐ Yes ■ No	Azithromycin
☐ Yes ■ No	Chloramine-T: ***See additional reporting requirements on page 7***
☐ Yes ■ No	Chlorine
☐ Yes ■ No	Draxxin
☐ Yes ■ No	Erythromycin - injectable
☐ Yes ■ No	Erythromycin - medicated feed
■ Yes ☐ No	Florfenicol (Aquaflor)
■ Yes ☐ No	Formalin - 37% formaldehyde: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Herbicide - describe:
☐ Yes ☐ No	Hormone - describe:
■ Yes ☐ No	Hydrogen Peroxide: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Iodine: ***See additional reporting requirements on page 7***
■ Yes ☐ No	Oxytetracycline
■ Yes ☐ No	Potassium Permanganate: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Romet
☐ Yes ☐ No	SLICE (emamectin benzoate)
☐ Yes ☐ No	Sodium Chloride - salt
☐ Yes ☐ No	Vibrio vaccine
☐ Yes ☐ No	Other:
☐ Yes ☐ No	Other:

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: AquaFlor		Generic Name: Florfenicol (15 mg/kg biomass)	
Reason for use: to control Bacterial Coldwater Disease and Enteric Redmouth Disease			
☐ Preventative/Prophylactic ☒ As-needed	Total quantity of formulated product per treatment (specify units) 2%BW	Total quantity of formulated product used in past year (specify units): 2,198 lbs	
Date(s) of treatment: 3/19/21 through 3/28/21, and 5/7/21 through 5/16/21			Total number of treatments in past year: 2
Maximum daily volume of treated water:	Treatment concentration (specify units): 15 mg/kg BW	Duration and frequency of treatment(s): 10 consecutive days of feeding	
Method of application:	☐ Static Bath ☐ Flow-through	☒ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☒ Raceways ☐ Incubation building	☒ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☒ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Brand Name: Terramycin 200		Generic Name: Oxytetracycline(3.75g/100 lbs)	
Reason for use: to control Columnaris Disease			
☐ Preventative/Prophylactic ☒ As-needed	Total quantity of formulated product per treatment: 2% BW	Total quantity of formulated product used in past year (specify units): 1,860	
Date(s) of treatment: 8/13/21 through 8/22/21, and 8/17/21 through 8/26/21			Total number of treatments in past year: 2
Maximum daily volume of treated water:	Treatment concentration (specify units): 3.75 g/ 100 lbs fish	Duration and frequency of treatment(s): 10 consecutive days of feeding	
Method of application:	☐ Static Bath ☐ Flow-through	☒ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☒ Raceways ☐ Incubation building	☒ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☒ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Treatment 1: Parasite-S		Generic Name: Formalin (37% formaldehyde)	
Reason for use: Control fungus on incubating eggs			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment (specify units): 2.37-14.66L (9.67L avg.)	Total quantity of formulated product used in past year (specify units): 464.0L	
Date(s) of treatment: 41 treatments in 101 days from 9/22/21-12/30/21 3 species, 2 incubation buildings			Total number of treatments in past year: 41
Maximum daily volume of treated water: 3,150 gal	Treatment concentration (specify units): 1,667 mg/L formalin	Duration and frequency of treatment(s): 15 minutes, ~alternating weekdays	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ■ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	■ Other (describe): * formalin detention tank
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: * Previous concentrations estimated with bench chemistry confirmed we are well within limits. Treated incubation effluent goes into formalin dilution tanks that provide ~ 40- to 60-fold dilution. We reconfigured the drain lines from the tanks to enter other existing untreated effluents that provide additional ~7.5- to 10-fold dilution resulting in final concentration (C) in effluent <1 mg/L or 10>C>1 at highest level estimated in effluent.			

Brand Name: Treatment 2: Parasite-S		Generic Name: Formalin (37% formaldehyde)	
Reason for use: External fungus and parasites on fish - Saprolegnia, Trichodina, Ich			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment: 2.5L	Total quantity of formulated product used in past year (specify units): 16 gallons	
Date(s) of treatment: 4/19-4/25, 5/21-5/22, 6/14-6/24, 7/16-7/19			Total number of treatments in past year: 24
Maximum daily volume of treated water: 26,985gal	Treatment concentration (specify units): <25 ppm	Duration and frequency of treatment(s): 1-hour treatments, 24 total on dates above	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	■ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Flow-Through Treatments	
Tank Volume	18,641 Liters
Calculated Flow Rate	1,702 Liters/Minute
Duration of Treatment	60 Minutes
Desired Flow-Through Treatment Concentration of Product	<25 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	42 mL/Minute
Total Volume of Product Needed	2.5 L/day X 24 days = 16 gal Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: <25 mg/L formalin Active Ingredient: 9.3 mg/L formaldehyde Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	3,699,768 gallons per day Specify Units
Maximum % of Facility Discharge Treated	0.00002% % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Potassium Permanganate		Generic Name: Potassium Permanganate	
Reason for use: Control Gill Disease and Columnaris Disease			
☐ Preventative/Prophylactic ☒ As-needed	Total quantity of formulated product per treatment (specify units): 1024 g	Total quantity of formulated product used in past year (specify units): 5120 g	
Date(s) of treatment: 5/5/21- 5/7/21 and 8/11/21, 8/13/21			Total number of treatments in past year: 5 x 2 ponds
Maximum daily volume of treated water: 3,775,680 gal	Treatment concentration (specify units): 1-2 ppm	Duration and frequency of treatment(s): 2 ponds x 1 hr for 2 or 3 days	
Method of application:	☐ Static Bath ☒ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	☒ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☒ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Brand Name: 35% Perox-Aid		Generic Name: Hydrogen peroxide	
Reason for use: Control Columnaris Disease			
☐ Preventative/Prophylactic ☒ As-needed	Total quantity of formulated product per treatment: 1.67 gallons	Total quantity of formulated product used in past year (specify units): 5 gallons	
Date(s) of treatment: 8/24/21-8/28/21			Total number of treatments in past year: 3
Maximum daily volume of treated water: 239,591 liters	Treatment concentration (specify units): 75 ppm	Duration and frequency of treatment(s): 3 days every other day x 1 hr x 6 RWs	
Method of application:	☐ Static Bath ☒ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☒ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☒ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Flow-Through Treatments	
Tank Volume	806,750 liters Liters
Calculated Flow Rate	9,562 Liters/Minute
Duration of Treatment	60 Minutes
Desired Flow-Through Treatment Concentration of Product	2000 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	17.1 mL/Minute
Total Volume of Product Needed	1,023 g, 1.023 L Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 2 mg/L potassium permanganate Active Ingredient: 2 mg/L Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	4,358,487 Specify Units
Maximum % of Facility Discharge Treated	3.5% % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Flow-Through Treatments	
Tank Volume	16,990 Liters
Calculated Flow Rate	3,933 Liters/Minute
Duration of Treatment	60 Minutes
Desired Flow-Through Treatment Concentration of Product	75,000 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	315 mL/Minute
Total Volume of Product Needed	18.9 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 75 ppm hydrogen peroxide Active Ingredient: 75 ppm Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	4,358,487 gallons per day Specify Units
Maximum % of Facility Discharge Treated	4.4% % of Total Discharge

Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.

None

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed name of person signing	Title
Michael J. Crewson	Salmonid Enhancement Scientist
Applicant Signature Michael J Crewson	Date Signed 1/20/22

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191
Washington Hatchery Annual Report
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140